

REMARKS

Reconsideration and allowance are respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-10 and 34 are pending in this application.

Claims 11-33 were withdrawn from consideration.

Claims 1 and 6 have been amended.

Claim 34 has been added.

Regarding the Drawings

The Drawings were objected to for failing to comply with 37 C.F.R. § 1.84(p)(5) because they did not include the reference characters 2 and 7 which are discussed in the specification as indicated by the Examiner. Applicant is providing an amended replacement drawing sheet, clearly labeled "Replacement Sheet", such that, elements 2 and 7 are clearly indicated as supported in the specification. Applicant respectfully requests that the drawing objection be withdrawn.

Regarding the § 102 Rejection

Claims 1-10 were rejected under 35 U.S.C. § 102(e) for being anticipated by Kimmitt (U.S. Patent No. 6,738,935). Referring to Figure 3 of Kimmitt, Applicant points out that Kimmitt teaches an apparatus for encoding and decoding data. The transmit path logic within the physical coding sublayer logic 14 of Kimmitt includes an XGMII controller 50, a data error correction code generator 52, an interleave function 53, a transmit side-scrambler logic 54, and a parity and control ECC encoder 56. All these functions are built into a single integrated circuit which is a 40x20-bit cell that carries 64 bits of data and framing capability for ethernet and cell

applications. Kimmitt, Col. 6, lines 44-55. Kimmitt's data is received via the XGMII bus into the EXGMII transmit control logic 50. Col. 6, lines 59-61. The data ECC generator 52 generates 7 redundant bits from the 65-bit data payload comprising the data carried on TXD63:0 received from the XGMII transmit control logic 50 and the monitor channel bit of the monitor channel 26. The 7 redundant ECC bits are generated using a CRC algorithm that provides single bit error correction, double bit error detection and 6 bit burst error detection. Kimmitt, Col. 8, lines 30-40. After data ECC generator 52, the data and the redundant bits are input into the transmit interleaver 53. In the transmit interleaver, the transmit data bus, the monitor bit and the ECC bits are divided into separate groups. Col. 10, lines 45-53. The output from the transmit interleaver 53 is provided to the transmit scrambler 54 wherein the incoming data is X-ORed with the scramblers pseudo random binary sequence (PRBS). Col. 11, lines 5-9. After scrambling the interleaved data and redundant bits, the parity and control ECC encoder 56 generates two additional bits in each channel. The two additional bits per channel carry the transmit control state and provides parity for the respective channels. The bits are used to obtain alignment on word boundaries within each channel and additionally, help to obtain interchannel alignment. The bits added in the parity and control ECC encoder 56 are considered redundant bits. Col. 13, lines 59-67.

In a nutshell, the Kimmitt scrambler receives data, which includes redundant bits that are not from the originally received signal from the XGMII bus. Instead, the Kimmitt device receives original data, then first performs ECC coding on the data by adding redundant bits to the received data, then scrambles the data and redundant bits. Then Kemmitt adds additional/redundant bits again before transmitting the data. There is nothing in Kimmitt that teaches or anticipates "a scrambler for converting original received data into scrambled data" and "an ECC encoder for converting said scrambled data into ECC-encoded data."

An embodiment of the invention scrambles original received data before the data is provided to an ECC coder. Such an exemplary embodiment has the ECC coding performed on the scrambled signal and not on the original signal. As discussed above, Kimmitt teaches ECC coding the original signal prior to scrambling the signal and then ECC coding the signal again. Kimmitt does not teach, allude to or anticipate an operation that allows a scrambler to scramble the original data.

Claim 1 has been amended to recite a scrambler for “converting original received data into scrambled data; and an ECC encoder for converting said scrambled data into ECC-encoded data.” Applicant respectfully submits that Kimmitt does not teach or anticipate scrambling original received data and therefore respectfully requests that the § 102 rejection be withdrawn. Applicant submits that claim 1 is ready for allowance.

Claim 6 has been amended to recite converting original received data into scrambled data. As discussed above, Kimmitt does not teach or anticipate scrambling original received data prior to “converting said scrambled data into ECC-encoded data.” As such, Applicant respectfully submits that claim 6 is not anticipated by Kimmitt and requests the § 102 rejection be withdrawn. Applicant submits that claim 6 is ready for allowance.

The remaining rejected claims are either directly or indirectly dependent upon independent claims 1 or 6. Applicant respectfully submits that these claims are not anticipated for, at least, the same reasons as stated above with respect to claims 1 and 6. Applicant respectfully requests that the § 102 rejection be withdrawn and submits that claims 1-10 are all ready for allowance.

Regarding the New Claim

New claim 34 has been added to claim matter believed to be allowable based on the cited art. In particular, claim 34 recites a scrambler for converting received data into scrambled data, "said received data being without redundant bits inserted by said serial communication system." Applicant respectfully submits that none of the art cited, anticipates or renders obvious new claim 34. Applicant respectfully submits that claim 34 is ready for allowance.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated:

Aug 31, 2004

Respectfully submitted,

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Attachments

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Figure 2.

Attachment: Replacement sheet

Annotated sheet showing changes

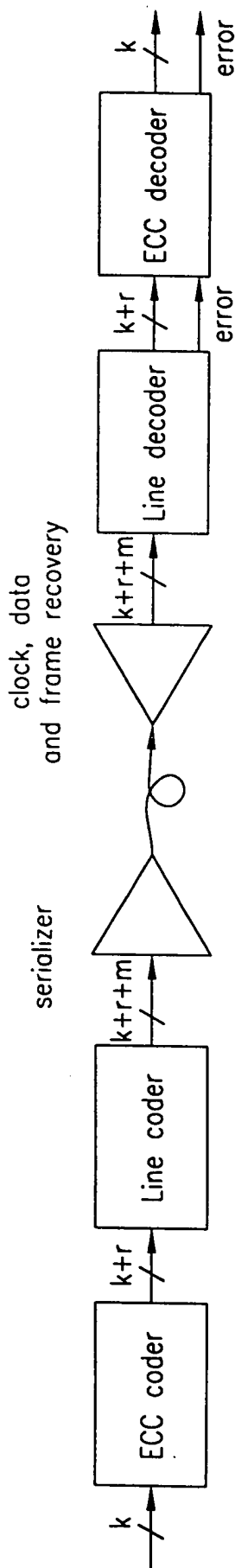


FIG. 1
 (PRIOR ART)

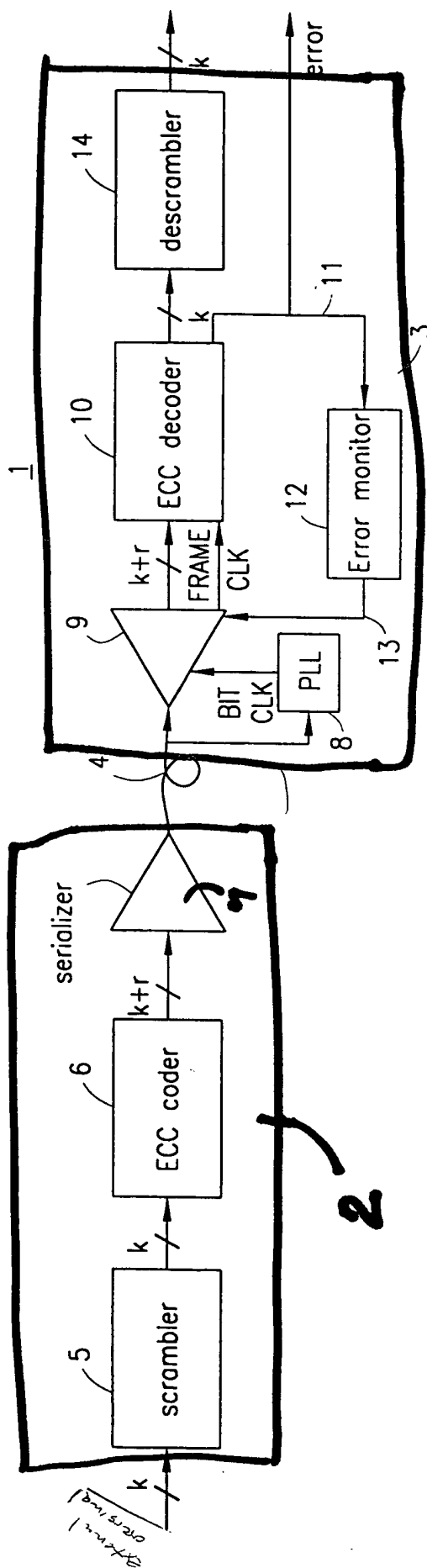


FIG. 2